

ABSTRACT

Conventional batteries are disadvantageous in that a firm outer case must be used to maintain an electrical connection between electrodes, which has been an obstacle to size reduction. Those in which each electrode and a separator are joined with an adhesive resin suffer from conflict between adhesive strength and battery characteristics, particularly ion conductivity and internal resistivity. To solve these problems, it is an object of the invention to reduce resistance between electrodes, i.e., internal resistance of a battery to improve battery characteristics while securing both insulation function against electron conduction and ion conductivity between electrodes and also to maintain adhesive strength enough to firmly join the electrodes thereby to provide a light, compact and thin battery.

The internal resistivity can be diminished by joining a positive electrode and a negative electrode with an adhesive resin layer having at least one adhesive resin layer containing a filler.

The adhesive resin layer has pores, which are filled with an electrolytic solution to exhibit sufficient ion conductivity thereby to improve battery characteristics and to retain adhesive strength.